

Structural Integrity Associates, Inc.®

Robotic In-line Inspection with SIPEC

A Dynamic Pulsed Eddy Current Technology

Structural Integrity Associates, Inc. (SI) and Diakont have teamed together to deliver the industry's first Robotic In-Line Inspection (R-ILI) solution featuring Structural Integrity's proprietary dynamic pulsed eddy current technology, SIPEC™. An evolution in pulsed eddy current testing technology, SIPEC significantly reduces cleaning requirements and enables inspections through thick internal liners and buildup.



**Not Clean?
Not a Problem. SIPEC.**

THE NDE SOLUTION

Through the development of unique sensors and control electronics and advanced signal processing methods, we have re-defined the pulsed eddy current testing method, taking it from a slow static measurement process to a dynamic solution capable of scanning at rapid speeds. SIPEC is a dynamic pulsed eddy current technology that has the following benefits:

- Measurement through thick internal liners and buildup
- Near- and far-side corrosion detection & differentiation
- Rapid scanning with dynamic pulsed eddy current
- Depth-sizing and spatial-sizing capabilities
- API 1163 Compliant Specifications

THE DELIVERY VEHICLE

One delivery vehicle for SIPEC technology is Diakont's RODIS R-ILI crawler, which is ideal for inaccessible and "difficult to assess" piping locations. The RODIS crawler can navigate 90° bends, tees and other complex configurations from a single entry point without bulky launchers or receivers. The robust traction system of the RODIS crawler contains dual base tracks for navigation on horizontal surfaces and a single top track that can be extended to push against the inside of the pipe wall for stabilization. This single top track provides the necessary traction for holding the crawler rigidly in place while inspecting difficult pipe geometries.



For more information, please contact:

Call Toll Free
877-474-7693
877-4SI-POWER

Visit our website at:
www.structint.com

Email: info@structint.com

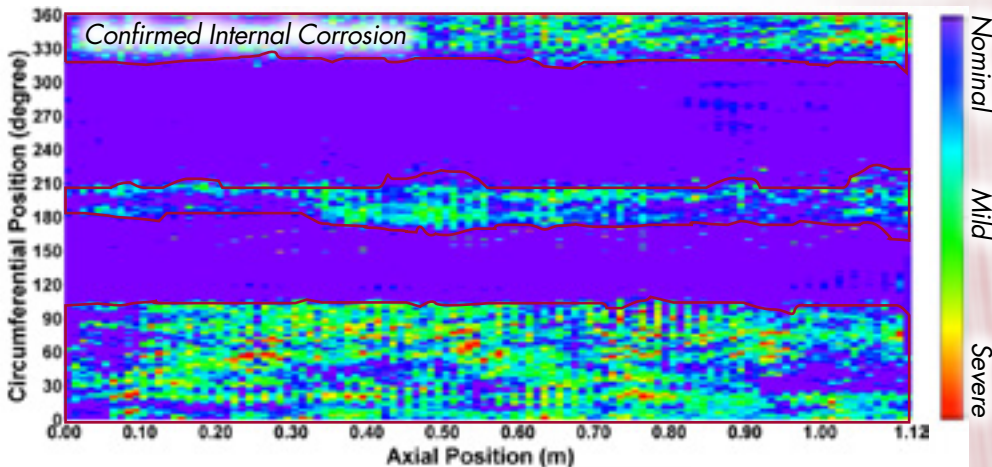
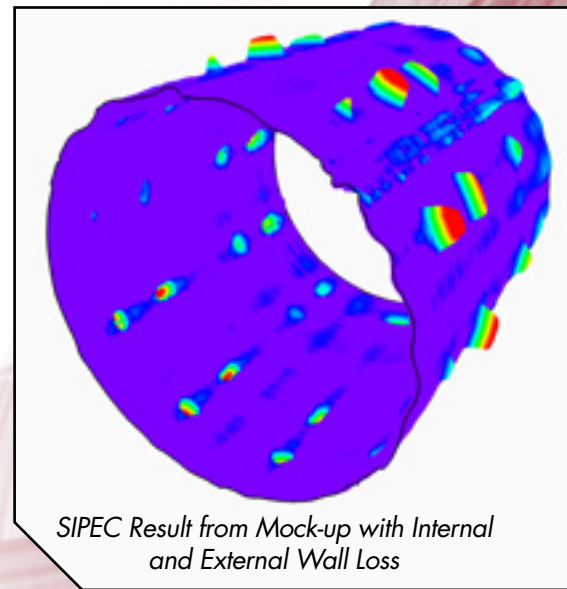
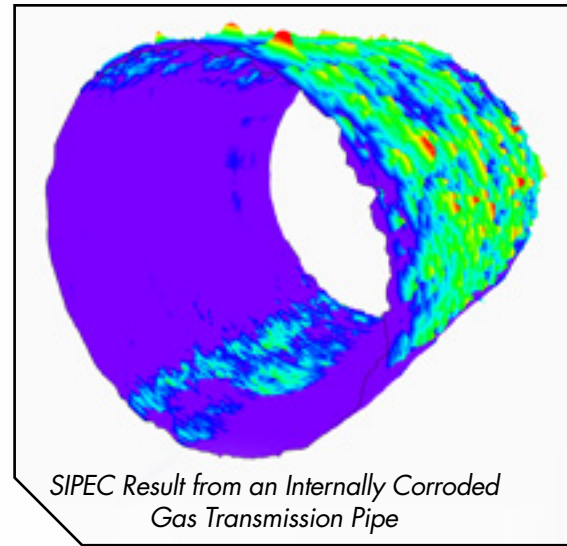
KEY APPLICATIONS

- Insulated, internally coated, or lined pipelines
- Terminal and/or Tank Delivery Piping
- Compressor and pump stations
- R-ILI in Support of Direct Assessment
- Road or river crossings
- Offshore pipelines
- Upstream gathering systems
- Buried or cased refinery piping
- Municipal steam or water pipe

R-ILI SPECIFICATIONS (INTEGRATED SIPEC™ and RODIS)

Inspection Range:	Up to 1,300 ft. (400 m)	
Diameter:	18 in. to 36 in. (45.72 cm to 91.44 cm)	
Wall Thickness:	0.100 in. (2.54 mm) to 0.500 in. (12.7 mm)	
Degradation Type:	Internal or External Corrosion	
Maximum Sensor Lift-off: (Coating/Liner Thickness) ‡	0.600 in. (16 mm)	
Power Source:	+/- 220 VAC	
Flaw Sizing Specifications		
	Min. Liftoff	Max. Liftoff
Depth Detection Threshold (ID)*:	≥ 0.03 in. (≥ 1 mm)	≥ 0.07 in. (≥ 2 mm)
Depth Detection Threshold (OD)*:	≥ 0.12 in. (≥ 3 mm)	≥ 0.12 in. (≥ 3 mm)
Defect Depth Sizing Accuracy (ID)†:	± 0.09 in. (± 2 mm)	
Defect Depth Sizing Accuracy (OD)†:	± 0.08 in. (± 2 mm)	

‡Larger sensor liftoffs are possible but the present specifications would not apply
 *Detection specifications reported at 90% Probability of Detection w/ 95% Confidence
 †Sizing specifications reported at 80% Certainty



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